Flint in its diverse natural occurrences: geo--tools for a better definition of the sourcing of secondary outcrops

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Precise identification of siliceous geo-resources used during prehistory still poses many problems, and archaeologists make ever-increasing demands for this data. The purpose is to provide a database containing an exact and descriptive identity for each different type of geological flint found within a region. The database is being developed for the administrative regions of Rhône-Alpes, Auvergne, Aquitaine and Provence-Alpes-Côte d'Azur. It will contribute to an accurate understanding of precise movements exchange of raw materials and therefore, to the behaviour of prehistoric groups.

Until now, the problem has been viewed in reverse; by trying to revert to the identity of the original material through study of the found object. Such a procedure follows an irrelevant path because it is first necessary to characterize raw materials in their primary position and secondly to make an appraisal of the epigenesis of the flint recovered from secondary sources.

The parameters we have chosen to characterize are the mineralogical composition (by optical microscopy, SEM, microprobe, cathodo-luminescence), microfacies characteristics (identified during microscopy and SEM image analysis), porosity measurements (by image analysis and porosimeter), and the presence and distribution of major and trace elements (using ICP, LA-ICP-MS, XRF, PIXE, Raman and SEM-EDS) at the surface or in the cracks in the matrix. Following the collection of the information, a statistical evaluation necessary to produce a reliable flint ID. Consideration of all varieties of the same material in its different states, coming from all known primary and secondary sources sets the study of archaeological samples on a solid foundation.